

$\frac{d}{dt} \int_{\Omega} u^m dx = - \int_{\Omega} u^{m+1} dx + m \int_{\partial \Omega} u^m \frac{\partial u}{\partial n} dx$

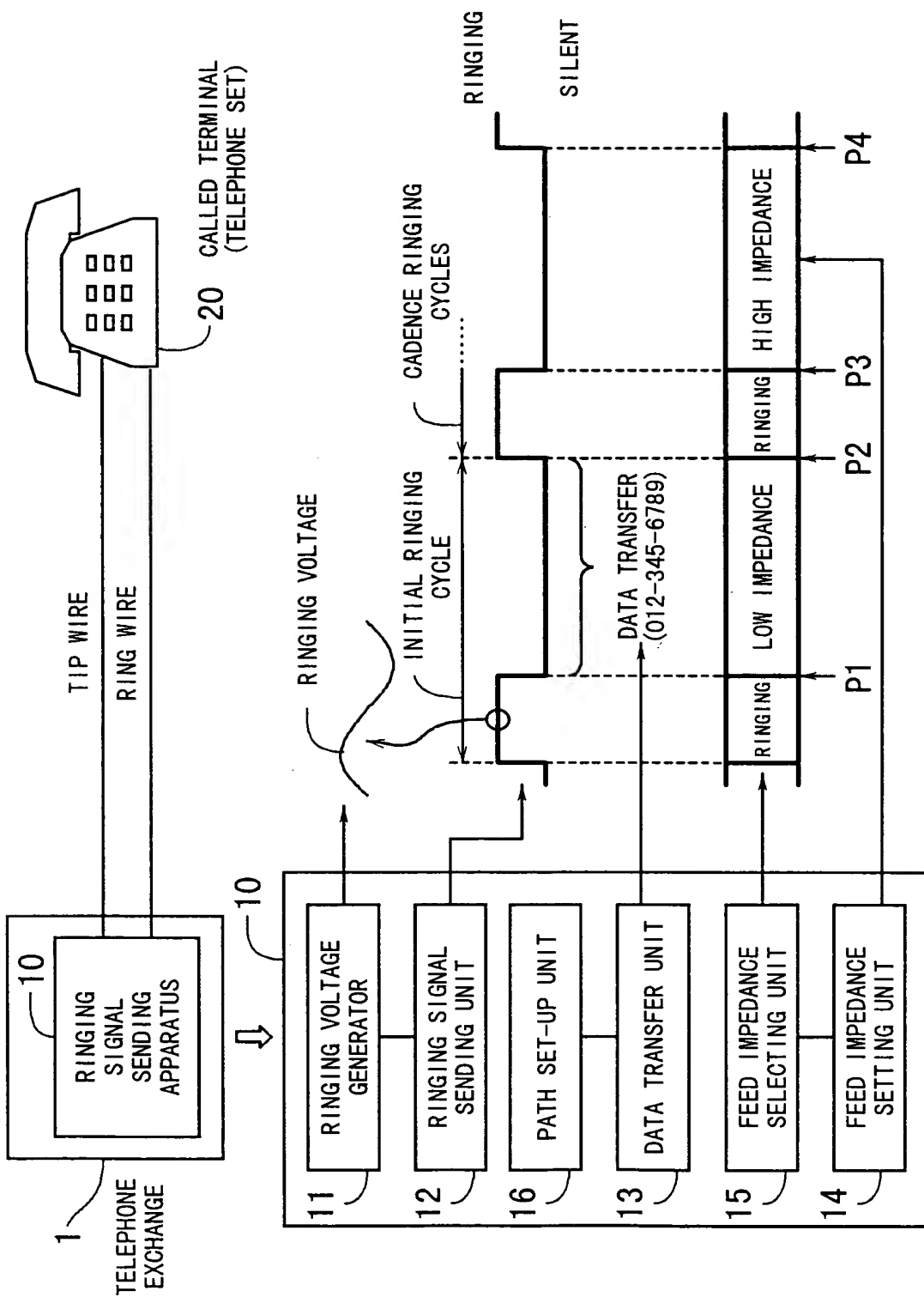


FIG. 1

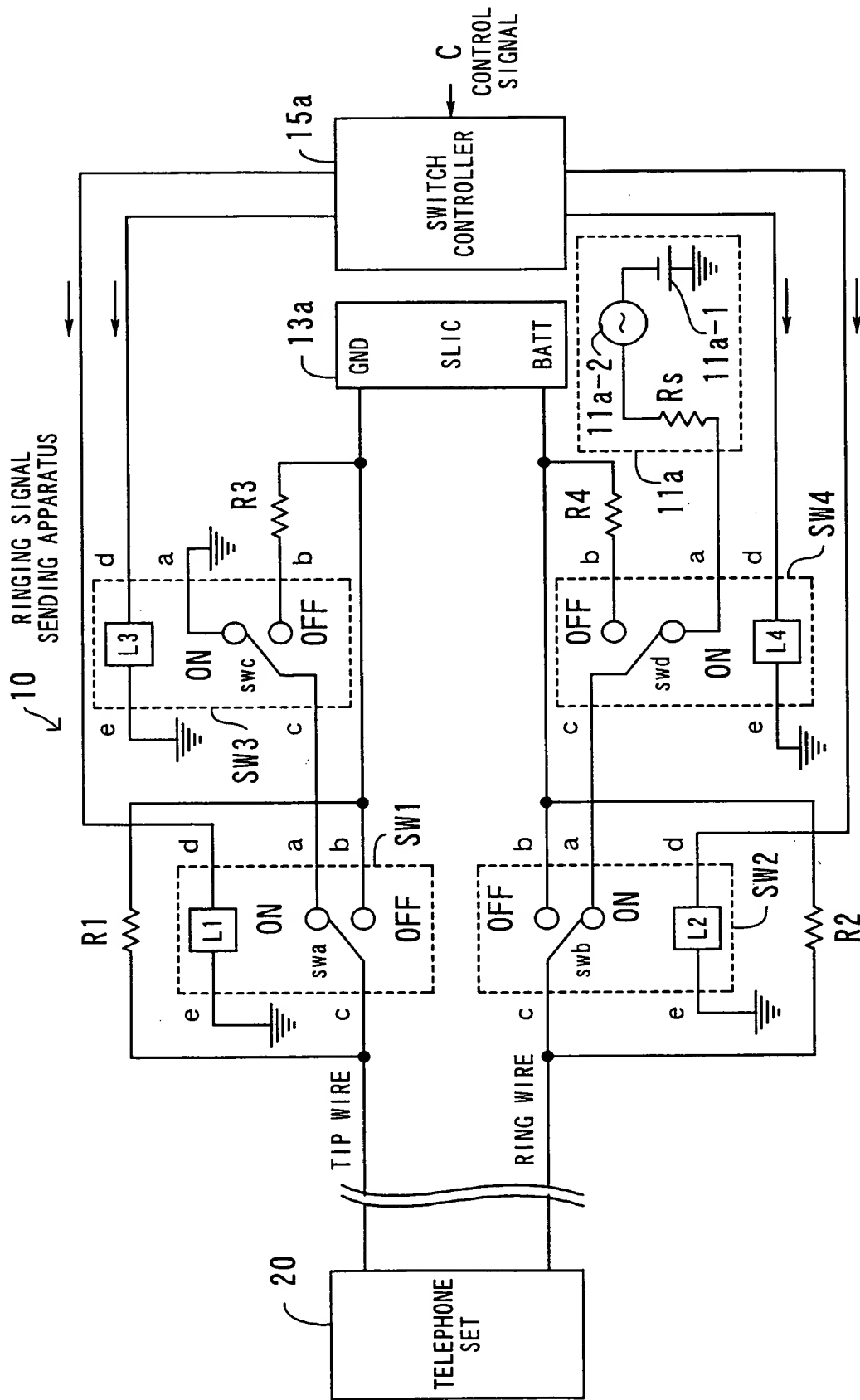


FIG. 2

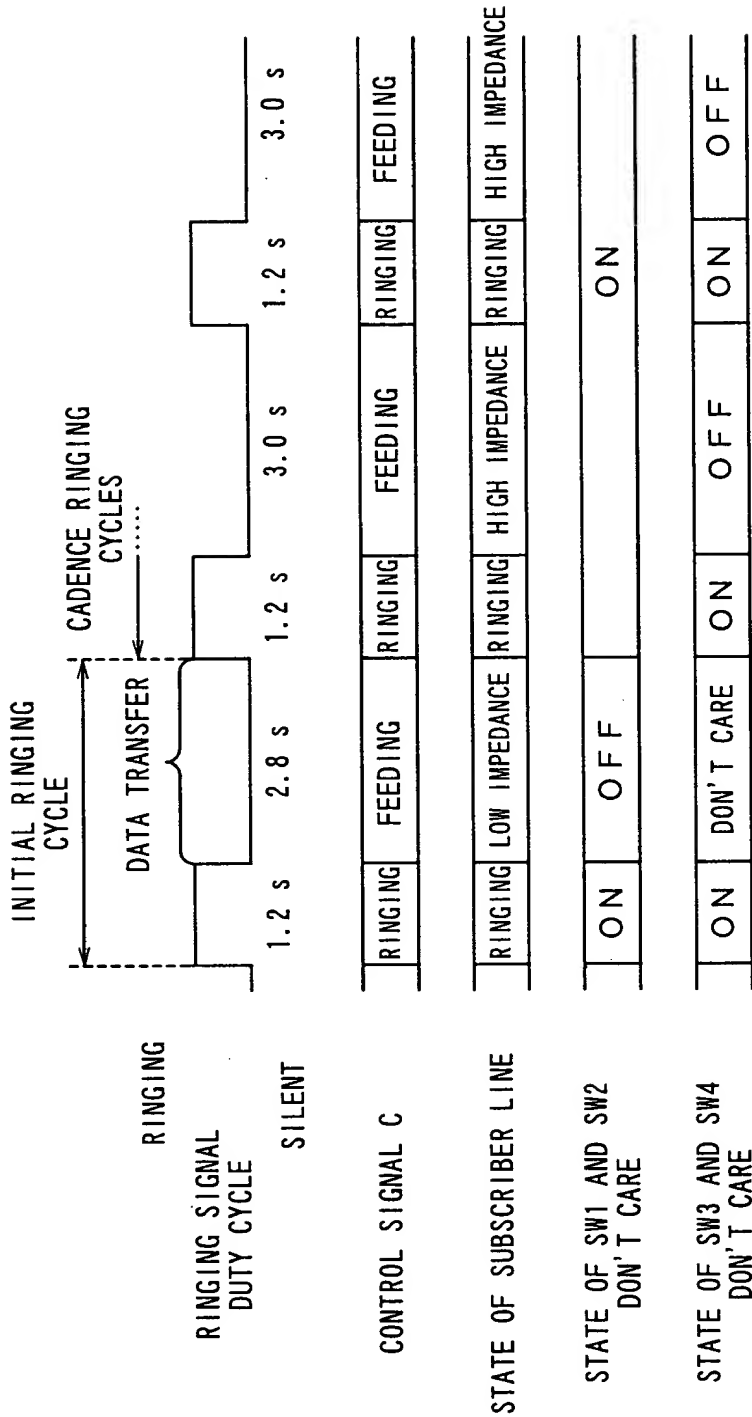


FIG. 3

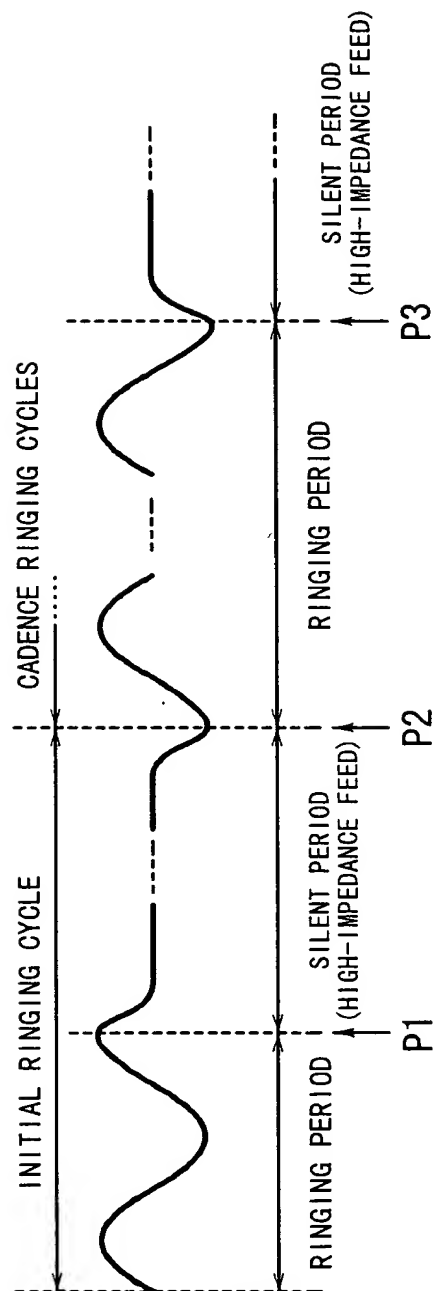


FIG. 6

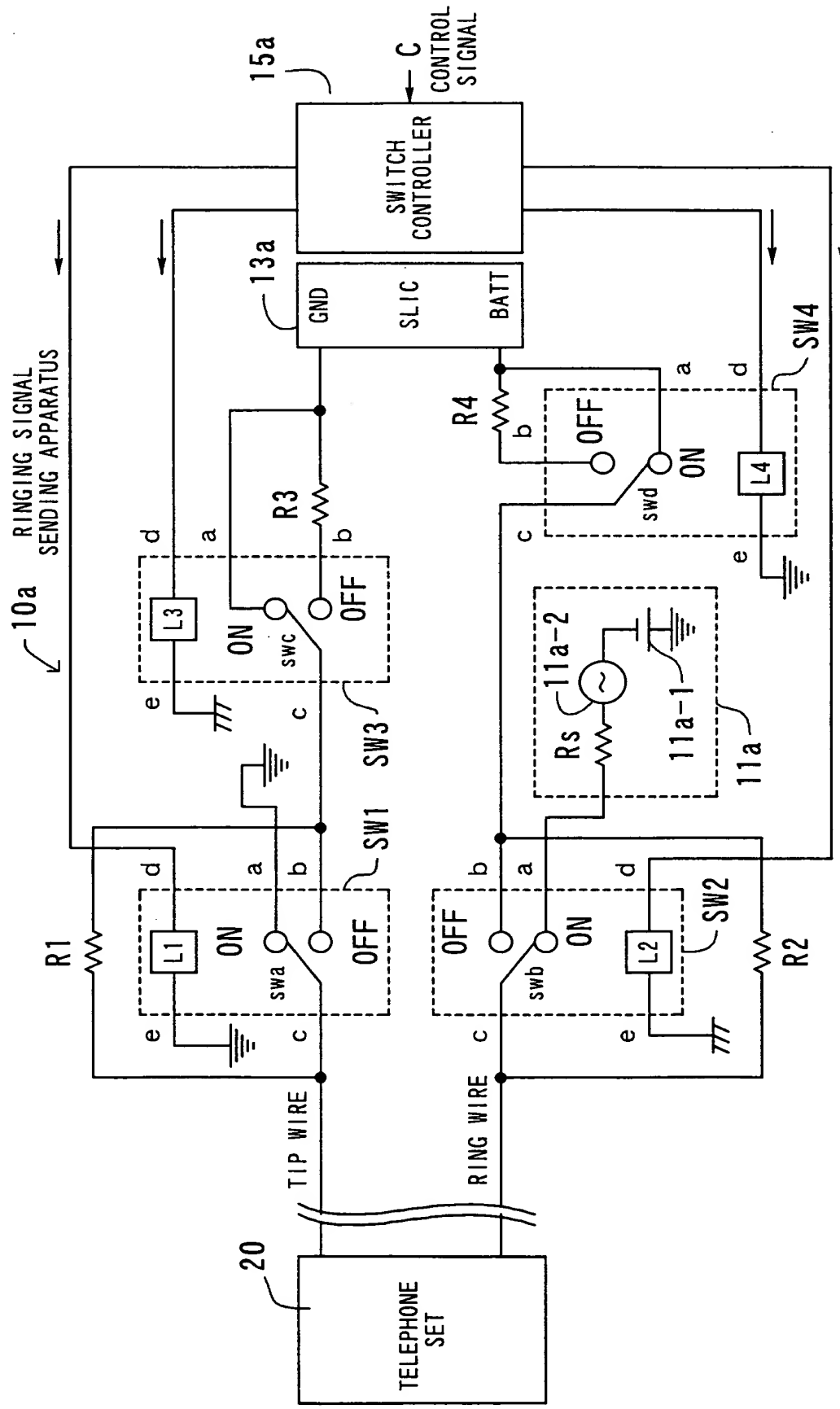


FIG. 7

FIG. 8(A)

(A) RINGING SIGNAL SENDING APPARATUS 10

	RELAY SWITCHES SW1 AND SW2	RELAY SWITCHES SW3 AND SW4
RINGING	ON	ON
LOW-IMPEDANCE FEED	OFF	DON' T CARE
HIGH-IMPEDANCE FEED	ON	OFF

FIG. 8(B)

(B) RINGING SIGNAL SENDING APPARATUS 10a

	RELAY SWITCHES SW1 AND SW2	RELAY SWITCHES SW3 AND SW4
RINGING	ON	DON' T CARE
LOW-IMPEDANCE FEED	OFF	ON
HIGH-IMPEDANCE FEED	OFF	OFF

FIG. 9

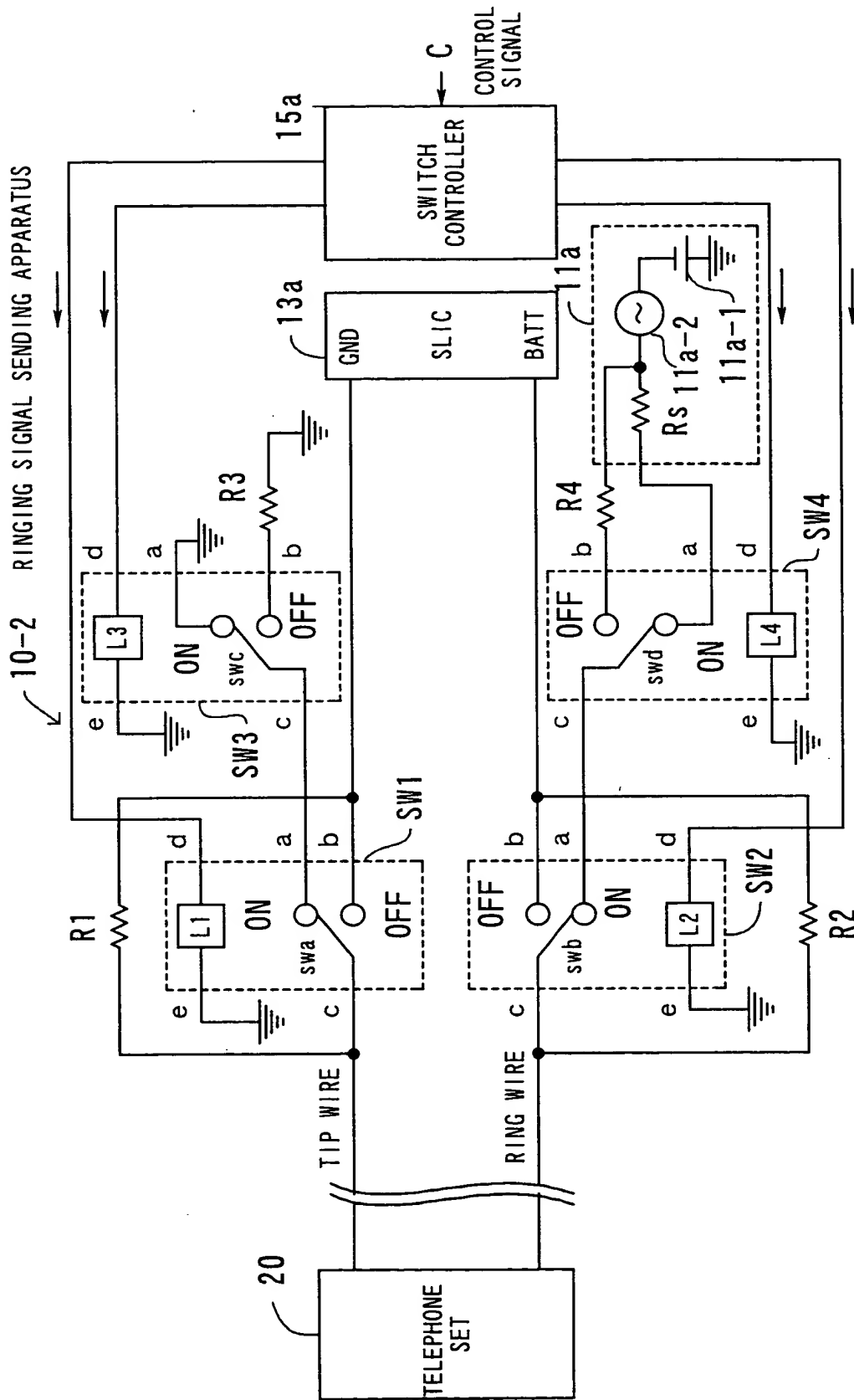


FIG. 10



FIG. 11

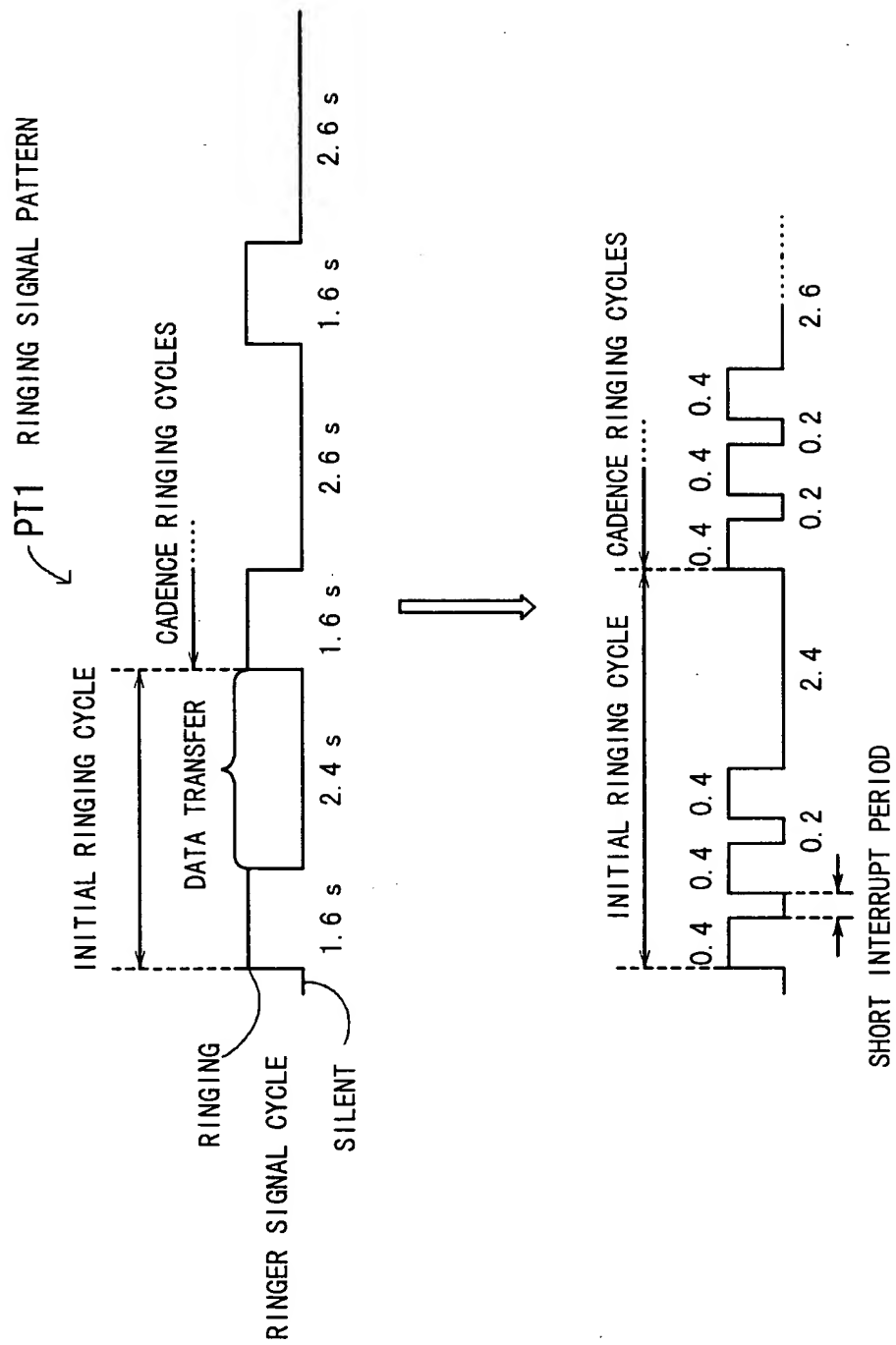
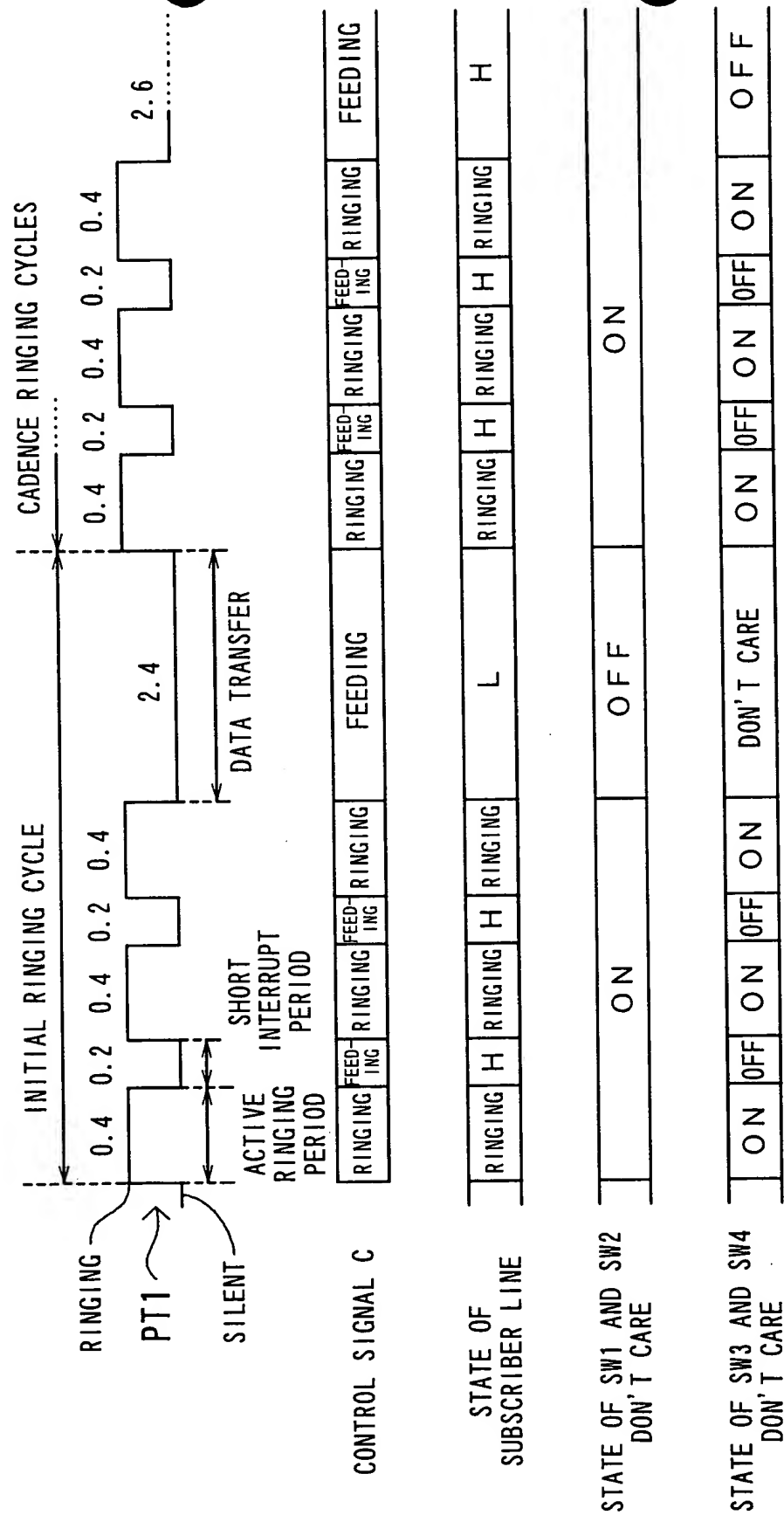


FIG. 12



CONTROL SIGNAL C		FEED- RINGING	FEED- RINGING	FEED- RINGING	FEED- RINGING	FEED- RINGING

[illegible]

STATE OF SW1 AND SW2
DON'T CARE

[illegible]

H: HIGH IMPEDANCE
L: LOW IMPEDANCE

FIG. 15

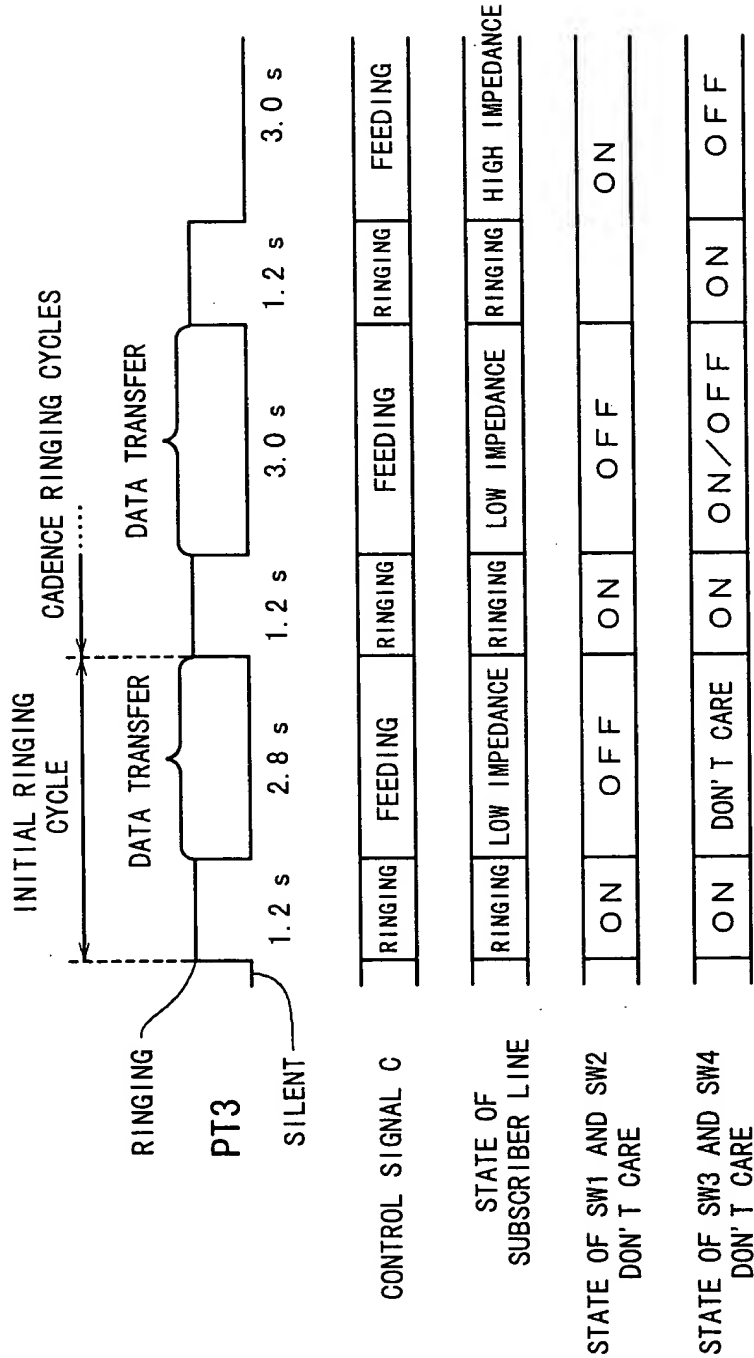
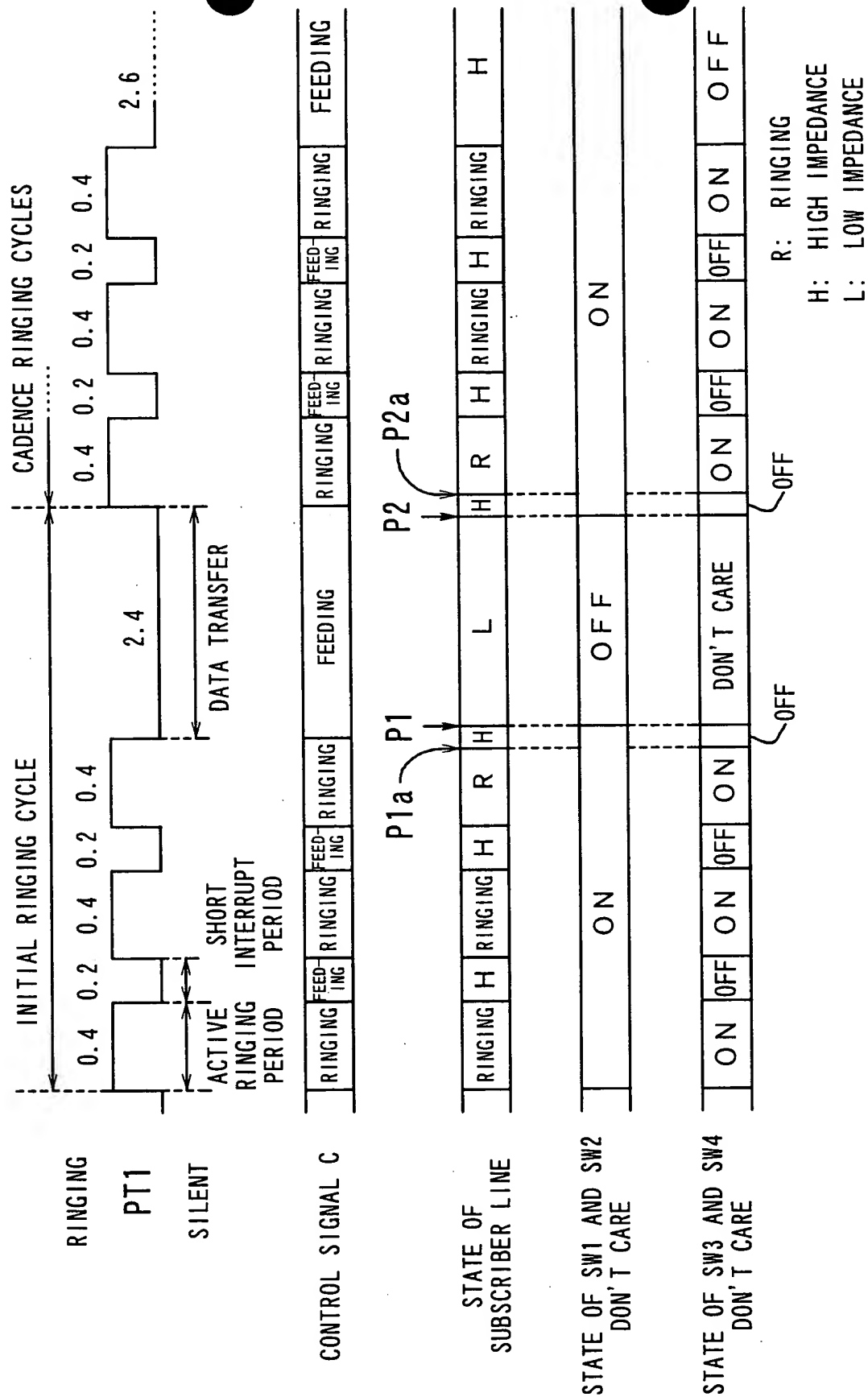


FIG. 16



R: RINGING

H: HIGH IMPEDANCE

L: LOW IMPEDANCE

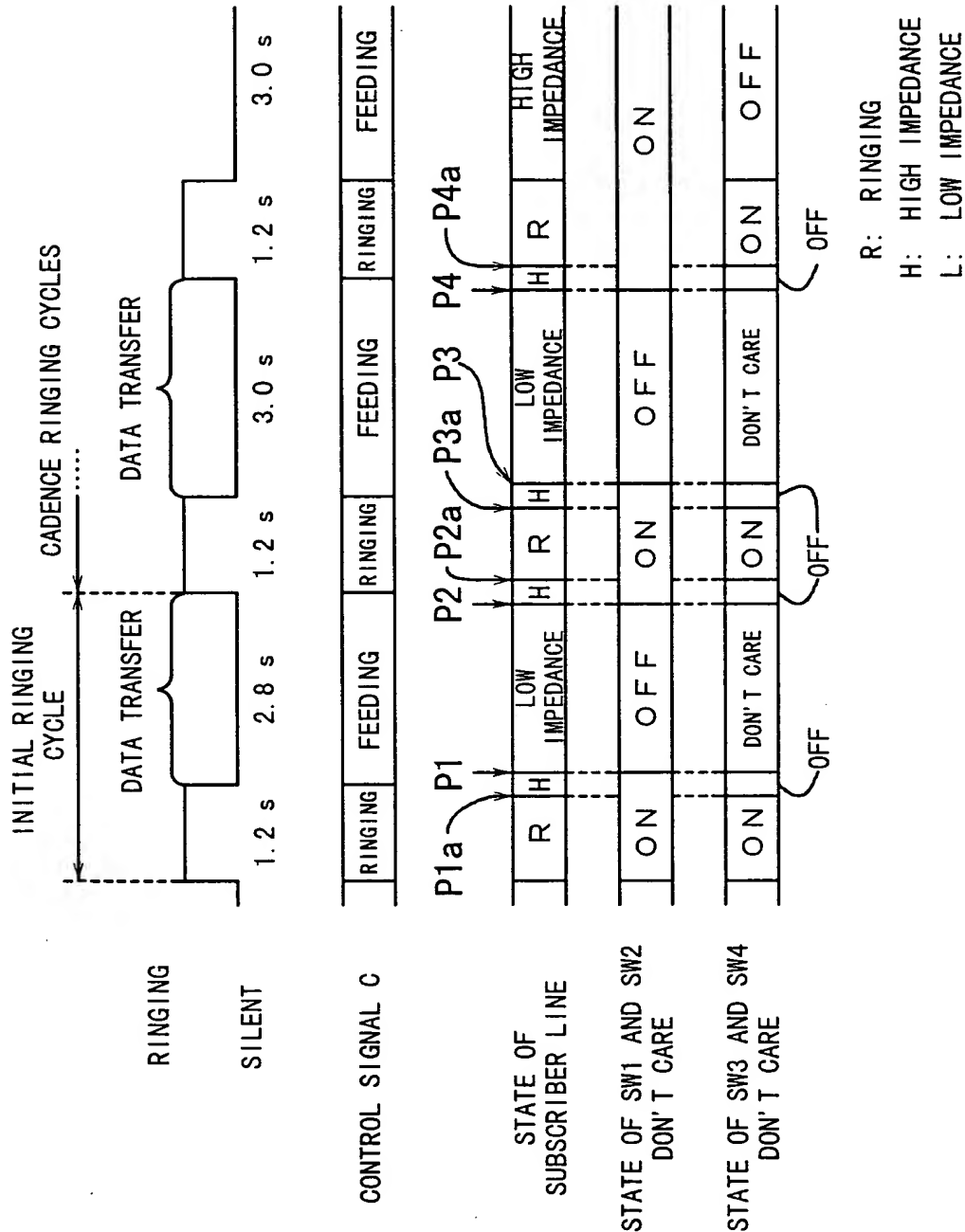


FIG. 19

The diagram illustrates a telephone system architecture. On the left, a **20 TELEPHONE SET** is shown with a handset and a base unit containing a 3x3 grid of buttons. Two lines connect the set to a larger block on the right: the **TIP WIRE (A WIRE)** and the **RING WIRE (B WIRE)**. This larger block is labeled **100 TELEPHONE EXCHANGE**. Inside the exchange, the **101-1 SUBSCRIBER INTERFACE UNIT** is depicted. It contains a **RELAY SWITCH (111)** with a coil and a switch mechanism labeled **SW**. The switch has four terminals: **a** (top left), **c** (top right), **b** (middle right), and **d** (bottom left). A **DRIVING COMMAND** with an arrow points to the coil of the relay. Terminal **a** is connected to a **FEED VOLTAGE SOURCE (112)**, which is represented by a battery symbol. Terminal **b** is connected to a **RINGING VOLTAGE SOURCE (113)**, represented by a battery symbol with a circle containing a sine wave. Terminal **c** is connected to a ground symbol. Terminal **d** is connected to a ground symbol. The entire system is part of a larger **100 TELEPHONE EXCHANGE** structure, with additional units **101-2** and **101-n** shown as stacked blocks to the right of the main interface unit.

FIG. 21
PRIOR ART